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10/099,906	03/14/2002	John H. Oates	0102323-00092	3614
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NUTTER MCCLENNEN & FISH LLP WORLD TRADE CENTER WEST 155 SEAPORT BOULEVARD BOSTON, MA 02210-2604			TORRES, JUAN A	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/099,906

Applicant(s)

OATES, JOHN H.

Examiner

Juan A. Torres

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-14, 17, 18, 20-26, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 7, 15, 16, 19 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Oath/Declaration***

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it is missing from the file.

### ***Drawings***

The drawings are objected to because:

a) In figure 1 reference 112 is improper; it is suggested to be changed to 100 (see page 16 line 17).

b) In figure 1 reference 100 is improper; it is suggested to be changed to 112 (see page 16 line 20 and 42).

c) In figure 5 reference 314 is improper; it is suggested to be changed to 312 (see page 29 line 3).

d) In figure 5 reference 312 is improper; it is suggested to be changed to 310 (see figures 3 and 4 and page 22 line 12).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- a) Figure 2 reference 212 see page 18 line 17.
- b) Figure 5 reference 214 see page 18 lines 21.
- c) Figure 3 reference 216 see page 18 line 33.
- d) Figure 3 reference 118 see page 21 line 39.
- e) Figure 5 reference 502 see page 28 lines 21 and 31.
- f) Figure 7 reference 710 see page 33 line 17.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as

either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities:

- a) In page 17 line 13 the recitation "122" is improper; it is suggested to be changed to "112".
- b) In page 18 line 16 the recitation " r[t] 112" is improper; it is suggested to be changed to "r[t] 122".
- c) In page 25 line 24 (?) the recitation "310" is improper; it is suggested to be changed to "312".
- d) In page 28 line 19 the recitation "312" is improper; it is suggested to be changed to "310".
- e) In page 39 line 16 the recitation "906" is improper; it is suggested to be changed to "904" (see figure 9).
- f) In page 39 line 16 the recitation "908" is improper; it is suggested to be changed to "902" (see figure 9).
- g) In page 39 line 16 the recitation "910" is improper; it is suggested to be changed to "904" (see figure 9).

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

A substitute specification including the claims is required pursuant to 37 CFR 1.125(a) because the number and nature of the amendments and the legibility of the application papers renders it difficult to consider the application (see above). In particular the line numbers is improper.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

***Claim Objections***

Claim 1 objected to because of the following informalities: in line 1 of claim 1 the recitation "In a" is improper; it is suggested to be changed to "A". Appropriate correction is required.

Claim 1 objected to because of the following informalities: in line 3 of claim 1 the recitation "the improvement comprising" is improper; it is suggested to be changed to "comprising". Appropriate correction is required.

Claims 2-10 objected to because of the following informalities: in line 1 of claims 2-10 the recitation "In the" is improper; it is suggested to be changed to "The". Appropriate correction is required.

Claim 2 objected to because of the following informalities: in line 1 of claim 2 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 3 objected to because of the following informalities: in line 1 of claim 3 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 4 objected to because of the following informalities: in line 1 of claim 4 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 5 objected to because of the following informalities: in line 1 of claim 5 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 6 objected to because of the following informalities: in line 1 of claim 6 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 7 objected to because of the following informalities: in line 1 of claim 7 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 8 objected to because of the following informalities: in line 1 of claim 8 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 9 objected to because of the following informalities: in line 1 of claim 9 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 10 objected to because of the following informalities: in line 1 of claim 10 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 11 objected to because of the following informalities: in line 1 of claim 11 the recitation "In a" is improper; it is suggested to be changed to "A". Appropriate correction is required.

Claims 12-21 objected to because of the following informalities: in line 1 of claims 12-21 the recitation "In the" is improper; it is suggested to be changed to "The". Appropriate correction is required.



Claim 11 objected to because of the following informalities: in line 3 of claim 11 the recitation "the improvement comprising" is improper; it is suggested to be changed to "comprising". Appropriate correction is required.

Claim 12 objected to because of the following informalities: in line 1 of claim 12 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 13 objected to because of the following informalities: in line 1 of claim 13 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 14 objected to because of the following informalities: in line 1 of claim 14 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 15 objected to because of the following informalities: in line 1 of claim 15 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 15 objected to because of the following informalities: in line 4 of claim 15 t, n, r, and  $p^{(n)}(t-r)$  are not defined. Appropriate correction is required.

Claim 15 objected to because of the following informalities: in line 7 of claim 15 the recitation "g[t]" is improper; it is suggested to be changed to "g[r]". Appropriate correction is required.

Claim 16 objected to because of the following informalities: in line 1 of claim 16 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 17 objected to because of the following informalities: in line 1 of claim 17 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 18 objected to because of the following informalities: in line 1 of claim 18 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 19 objected to because of the following informalities: in line 1 of claim 19 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 19 objected to because of the following informalities: in line 4 of claim 19  $t$ ,  $n$ ,  $r$ , and  $y_k^{(n+1)}$  are not defined. Appropriate correction is required.

Claim 20 objected to because of the following informalities: in line 1 of claim 20 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 21 objected to because of the following informalities: in line 1 of claim 21 the recitation "the further improvement wherein" is improper; it is suggested to be changed to "wherein". Appropriate correction is required.

Claim 22 objected to because of the following informalities: in lines 4-5 of claim 22 the recitation "between a composite spread-spectrum waveform and an estimated

spread-spectrum waveform" is improper; it is suggested to be changed to "between a composite spread-spectrum waveform and an estimated composite spread-spectrum waveform" (see claims 1 and 11). Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 29 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of:  $R_e$ ,  $H$ ,  $c_{km}^*[r]$  and  $r$  is vague and indefinite. It is not understood what these variables are.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5, 6, 8, 10-13, 17, 18 and 20-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim (US 6570864 B1).

As per claim 1 Kim discloses a spread spectrum communication system of the type that processes one or more spread-spectrum waveforms, each representative of a waveform associated with a respective user, comprising a first logic element that

generates a residual composite spread-spectrum waveform as a function of a composite spread-spectrum waveform and an estimated composite spread-spectrum waveform (figure 1 block 240 column 2 line 51 to column 3 line 40), one or more second logic elements each coupled to the first logic element, each second logic element generating a refined matched-filter detection statistic for at least a selected user (figure 1 block 20N column 2 line 36 to column 3 line 43) as a function of the residual composite spread-spectrum waveform (figure 1 block 261 column 2 line 36 to column 3 line 43) and a characteristic of an estimate of the selected user's spread-spectrum waveform (figure 1 block 231 column 2 line 36 to column 3 line 43).

As per claim 2 Kim discloses claim 1. Kim also discloses that the characteristic is at least one of an estimated amplitude and an estimated symbol associated with the estimate of the selected user's spread-spectrum waveform (figure 2A column 3 line 59 column 4 line 16).

As per claim 3 Kim discloses claim 1. Kim also discloses that the spread-spectrum communications system comprises a code division multiple access (CDMA) base station (column 1 lines 8-14).

As per claim 5 Kim discloses claim 1. Kim also discloses that the first logic element comprises summation logic which generates the residual composite spread-spectrum waveform based on the relation  $r_{res}^{(n)}[t] = r[t] - \hat{r}^{(n)}[t]$  (figures 1 and 2D; column 2 line 36 to column 3 line 43 and column 6 line 49 to column 7 line 25).

As per claim 6 Kim discloses claim 5. Kim also discloses that the composite spread-spectrum waveform is pulse-shaped and is based on estimated complex

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amplitudes, estimated delay lags, estimated symbols, and codes of the one or more user spread-spectrum waveforms (figure 1 block 252 column 2 line 36 to column 3 line 43).

As per claim 8 Kim discloses claim 1. Kim also discloses that the refined matched-filter detection statistic for each user is iteratively generated (figure 2D column 6 line 49 to column 7 line 25).

As per claim 10 Kim discloses claim 1. Kim also discloses that the first and second logic elements are implemented on any of processors, field programmable gate arrays, array processors and co-processors, or any combination thereof (column 5 lines 5-11).

As per claim 11 Kim discloses a spread spectrum communication system of the type that processes one or more user spread-spectrum waveforms, each representative of a waveform associated with a respective user, the improvement comprising a first logic element which generates an estimated composite spread-spectrum waveform that is a function of estimated user complex channel amplitudes, time lags, and user codes (figure 1 block 221 column 2 line 51 to column 3 line 34), a second logic element coupled to the first logic element, the second logic element generating a residual composite spread-spectrum waveform a function of a composite user spread-spectrum waveform and the estimated composite spread-spectrum waveform (figure 1 block 240 column 2 line 51 to column 3 line 40), one or more third logic elements each coupled to the second logic element, the third logic element generating a refined matched-filter detection statistic for at least a selected user (figure 1 block 20N column 2 line 36 to

column 3 line 43) as a function of the residual composite spread-spectrum waveform (figure 1 block 261 column 2 line 36 to column 3 line 43) and a characteristic of an estimate of the selected user's spread-spectrum waveform (figure 1 block 231 column 2 line 36 to column 3 line 43).

As per claim 12 Kim discloses claim 11. Kim also discloses that the characteristic is at least one of an estimated amplitude, an estimated delay lag and an estimated symbol associated with the estimate of the selected user's spread-spectrum waveform (figure 2A column 3 line 59 column 4 line 16).

As per claim 13 Kim discloses claim 11. Kim also discloses that the spread-spectrum communications system comprises a code division multiple access (CDMA) base station (column 1 lines 8-14).

As per claim 17 Kim discloses claim 11. Kim also discloses that the second logic element comprises summation logic which generates the residual composite spread-spectrum waveform based on the relation  $r_{res}^{(n)}[t] = r[t] - \hat{r}^{(n)}[t]$  (figures 1 and 2D; column 2 line 36 to column 3 line 43 and column 6 line 49 to column 7 line 25).

As per claim 18 Kim discloses claim 17. Kim also discloses that the composite spread-spectrum waveform is pulse-shaped and is based user spread-spectrum waveforms (figure 1 block 252 column 2 line 36 to column 3 line 43).

As per claim 20 Kim discloses claim 11. Kim also discloses that the refined matched-filter detection statistic for each user is iteratively generated (figure 2D column 6 line 49 to column 7 line 25).

As per claim 21 Kim discloses claim 11. Kim also discloses that the first and second logic elements are implemented on any of processors, field programmable gate arrays, array processors and co-processors, or any combination thereof (column 5 lines 5-11).

As per claim 22 Kim discloses a method for generating a residual composite spread-spectrum waveform as a function of an arithmetic difference between a composite spread-spectrum waveform and an estimated spread-spectrum waveform (figure 1 block 240 column 2 line 51 to column 3 line 40), generating a refined matched-filter detection statistic that is a function of a sum of a rake-processed residual composite spread-spectrum waveform for a selected user and an amplitude statistic for that selected user (figure 1 block 20N column 2 line 36 to column 3 line 43).

As per claim 23 Kim discloses claim 22. Kim also discloses generating a refined matched-filter detection statistic that is a function of a sum of a rake-processed residual composite spread-spectrum waveform for a selected user and an amplitude statistic for that selected user multiplied by a soft symbol estimate (figure 2A column 3 line 59 column 4 line 16).

As per claim 24 Kim discloses claim 22. Kim also discloses that the spread-spectrum communications system comprises a code division multiple access (CDMA) base station (column 1 lines 8-14).

As per claim 25 Kim discloses claim 22. Kim also discloses that the second logic element comprises summation logic which generates the residual composite spread-

spectrum waveform based on the relation  $r_{res}^{(n)}[t] = r[t] - \hat{r}^{(n)}[t]$  (figures 1 and 2D; column 2 line 36 to column 3 line 43 and column 6 line 49 to column 7 line 25).

As per claim 26 Kim discloses claim 22. Kim also discloses that the estimated composite spread-spectrum waveform is pulse-shaped and is based on a composite user re-spread waveform (figure 1 block 252 column 2 line 36 to column 3 line 43).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 9, 14 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6570864 B1) as applied to claim 1 above, and further in view of Yoshida (US 6282233 B1).

As per claim 4 Kim discloses claim 1. Kim doesn't specifically disclose that the CDMA base station comprises one or more long-code receivers, and each long-code receiver generating one or more respective matched-filter detection statistics, from which the estimated composite spread-spectrum waveform. Yoshida discloses that the CDMA base station comprises one or more long-code receivers, and each long-code receiver generating one or more respective matched-filter detection statistics, from which the estimated composite spread-spectrum waveform (column 12 lines 31-38). Kim and Yoshida are analogous art because they are from the same field of endeavor.



At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the long codes disclosed by Yoshida in the decoding apparatus disclosed by Kim. The suggestion/motivation for doing so would have been to obtain spread code period longer than a symbol period (column 12 lines 31-38). Therefore, it would have been obvious to combine Kim and Yoshida to obtain the invention as specified in claim 4.

As per claim 9 Kim discloses claim 1. Kim doesn't specifically disclose that a long-code receiver generates the refined matched-filter detection statistic for at least a selected user. Yoshida discloses that a long-code receiver generates the refined matched-filter detection statistic for at least a selected user (column 12 lines 31-38). Kim and Yoshida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the long codes disclosed by Yoshida in the decoding apparatus disclosed by Kim. The suggestion/motivation for doing so would have been to obtain spread code period longer than a symbol period (column 12 lines 31-38). Therefore, it would have been obvious to combine Kim and Yoshida to obtain the invention as specified in claim 9.

As per claim 14 Kim discloses claim 11. Kim doesn't specifically disclose that the CDMA base station comprises one or more long-code receivers. Yoshida discloses that the CDMA base station comprises one or more long-code receivers (column 12 lines 31-38). Kim and Yoshida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to incorporate the long codes disclosed by Yoshida in the decoding apparatus disclosed by Kim. The suggestion/motivation for doing so would have been to obtain spread code period longer than a symbol period (column 12 lines 31-38). Therefore, it would have been obvious to combine Kim and Yoshida to obtain the invention as specified in claim 4.

As per claim 28 Kim discloses claim 22. Kim doesn't specifically disclose that a long-code receiver generates the refined matched-filter detection statistic. Yoshida discloses that a long-code receiver generates the refined matched-filter detection statistic (column 12 lines 31-38). Kim and Yoshida are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the long codes disclosed by Yoshida in the decoding apparatus disclosed by Kim. The suggestion/motivation for doing so would have been to obtain spread code period longer than a symbol period (column 12 lines 31-38). Therefore, it would have been obvious to combine Kim and Yoshida to obtain the invention as specified in claim 9.

***Allowable Subject Matter***

Claims 7, 15, 16, 19 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: claims 7, 15, 16, 19 and 27 are allowed because the references cited fail to teach, as applicant has, the equation presented in those claims, as the applicant has claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres  
07-26-2005

  
KEVIN BURD  
PRIMARY EXAMINER